

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS B
Foundation Tier**

F B292/A

TERMINAL PAPER – SECTION A

Specimen Paper

Candidates answer on the question paper.

Time: 1 hour

Additional Materials:

- Geometrical instruments
- Tracing paper



Candidate Name

Centre Number

--	--	--	--

Candidate Number

--	--	--	--

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers, in blue or black ink, in the spaces provided on the question paper.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Show all your working. Marks may be given for working which shows that you know how to solve the problem, even if you get the answer wrong.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- **WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.**

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks in this section is 50.

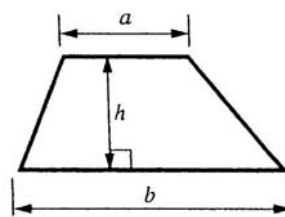
	<p>WARNING You are not allowed to use a calculator in Section A of this paper.</p>
--	---

For Examiner's Use	
Section A	
Section B	
Total	

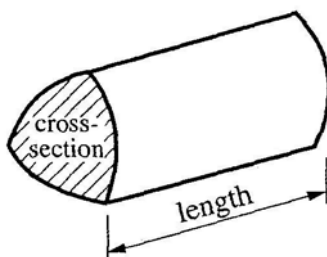
This document consists of **15** printed pages.

FORMULAE SHEET

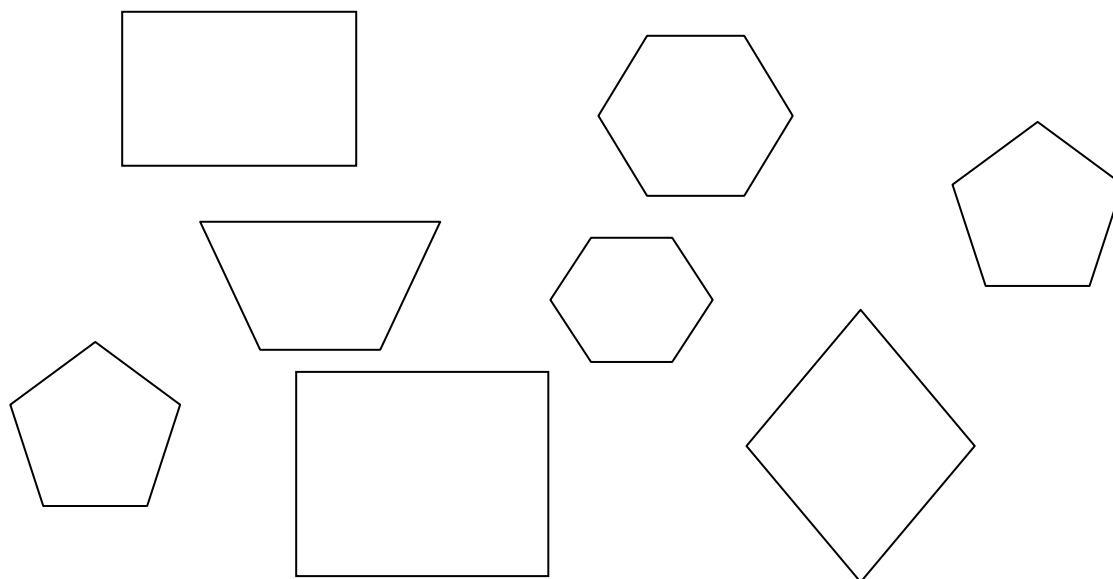
Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = (area of cross-section) \times length

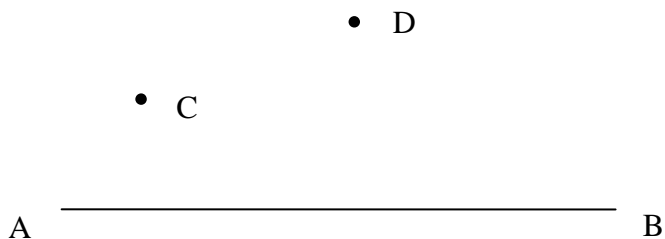


1



- (a) Two of these shapes are congruent.
Put a tick [✓] in these two shapes. [1]
- (b) One of these shapes is a trapezium.
Put a cross [✕] in this shape. [1]

2



- (a) Measure the length of the line AB.
Give the units of your answer. (a).....[2]
- (b) Draw a line through the point C which is perpendicular to the line AB. [1]
- (c) Draw a line through the point D which is parallel to the line AB. [1]

[Turn Over

3 (a) Keith's flower bed has 100 plants in it.

It has 48 geraniums,
27 busy lizzies,
20 dalias.

The rest are fuchsias.

(i) How many fuchsias are there?

(a) (i).....[2]

(ii) What fraction of the plants are busy lizzies?

(ii).....[1]

(b) Linda's flower bed has 60 plants in it.

(i) 50% of them are asters.

How many asters are there?

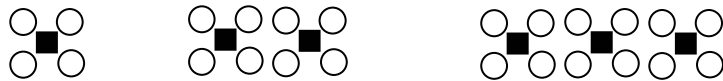
(b) (i).....[1]

(ii) $\frac{2}{5}$ of the 60 plants are marigolds.

How many marigolds are there?

(ii).....[2]

4 Mike is ordering tables and chairs for his restaurant. He draws a sequence of patterns of tables and chairs. The squares represent tables and the circles represent chairs.



(a) Draw the next pattern in the sequence. [2]

(b) Complete this table for the sequence.

Number of tables	1	2	3	4	5
Number of chairs	4				

[1]

(c) One pattern has 12 squares.
How many circles does it have?

(iii).....[1]

(d) Mike wants to find out how many chairs he needs if he orders 50 tables. He says that since one table has 4 chairs he will need $50 \times 4 = 200$ chairs. Is Mike right or wrong? Explain your answer.

.....

 [2]

(e) Describe a rule for continuing the sequence for the number of circles.

.....
 [1]

[Turn Over

5 Work out the cost of 1.6 kg of tomatoes at £1.50 per kg.

£.....[2]

6 (a) Find 2^3 .

(a)[1]

(b) Work this out, giving your answer as a fraction in its simplest terms.

$$\frac{2}{3} \times \frac{1}{10}$$

(b)[2]

7 Una takes 4 minutes to knit 140 stitches.

At this rate, how many stitches will she knit in 30 minutes?

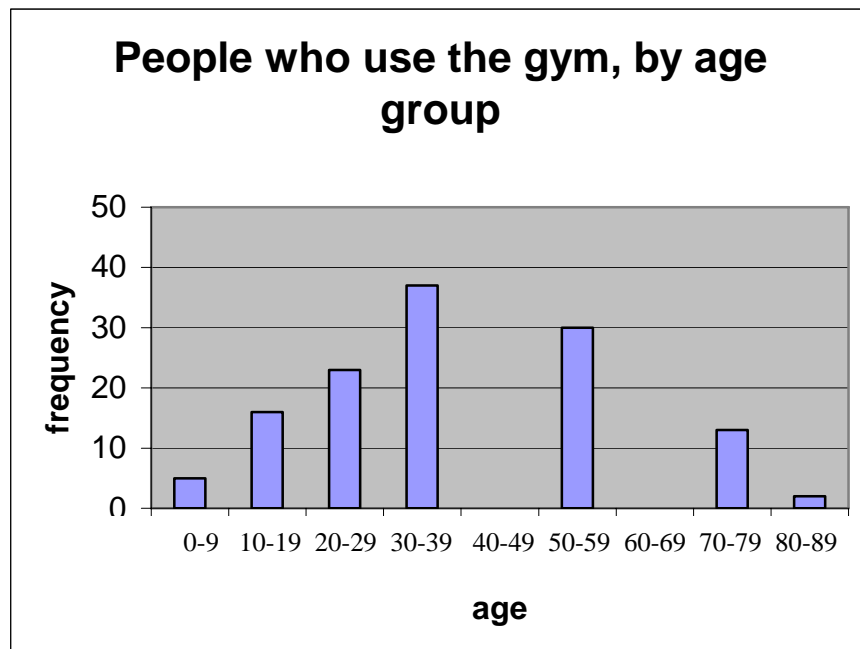
.....[3]

- 8 This table shows the ages of people who use the gym at the health club one day. There are 189 people altogether.

Age in years on last birthday	Number of people
0 to 9	5
10 to 19	16
20 to 29	23
30 to 39	37
40 to 49	43
50 to 59	30
60 to 69	20
70 to 79	13
80 to 89	2

- (a) (i) Complete the bar Chart below to show these data.

[2]



- (ii) Write down the modal group for this distribution.

(a) (ii).....[1]

[Turn Over

- (b) One of these people is chosen at random.

Find the probability that this person's age on the survey day is

- (i) under 10,

(b) (i).....[1]

- (ii) 50 or over.

(ii).....[2]

- (c) Shaz says that because the data are split into nine groups the probability that a person chosen at random is from the 30 - 39 group is $\frac{1}{9}$.

Explain why she is wrong.

.....
 [1]

- (d) (i) This notice was at the health club in January.

<p>Battle of the sexes! 450 males 660 females had a swim over the Christmas period</p>
--

Write the ratio of males to females as simply as possible.

(d) (i).....[2]

- (ii) There were 50 people at the health club one lunchtime.
 30 of them were female.

What percentage of the people at the health club was female?

(ii).....[2]

9 Solve the following equations.

(a) $4x = 20$

(a)[1]

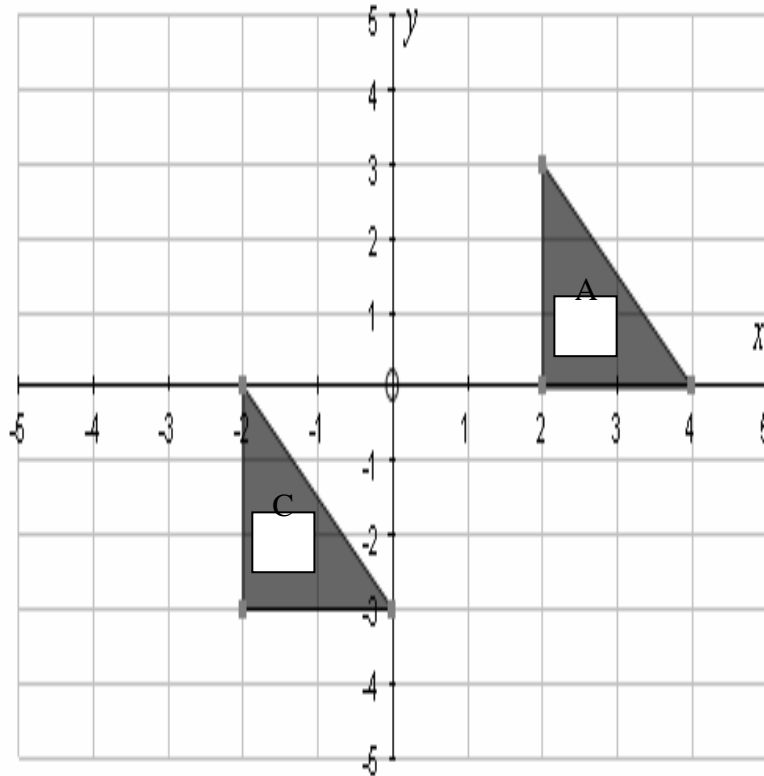
(b) $2x - 5 = 6$

(b)[2]

(c) $4x + 9 = 3(x + 2)$

(c)[3]

[Turn Over



- (a) Rotate triangle A through 90° anticlockwise about the origin. Label the image B. [3]
- (b) Describe the **single** transformation which maps triangle A onto triangle C.

.....
 [3]



OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS B

B292/A

TERMINAL PAPER 1 – SECTION A

Specimen Mark Scheme

The maximum mark for this section is 50.

Section A					
1	(a)	Correct ticks	B1	2	
	(b)	Correct cross	B1		
2	(a)	Length = 7.4cm Units	B1 B1	4	Within range 72 - 76mm Consistent with their answer
	(b)	Correct line	B1		
	(c)	Correct line	B1		
3	(a)(i)	$100 - (48 + 27 + 20)$ $= 100 - 95$ $= 5$	M1 A1	6	Or B2 For mult by fraction seen
	(ii)	$\frac{27}{100}$	B1		
	(b)(i)	30	B1		
	(ii)	$\frac{2}{5} \times 60 = 24$	M1 A1		
4	(a)		M1 A1	7	Attempt to repeat block of symbols All of them!
	(b)	8, 12, 16, 20	B1		
	(c)	48	B1		
	(d)	Yes, because you multiply by 4 for each table.	B1 B1		
	(e)	e.g. Multiply the number of squares by 4	B1		
5		$1.6 \times \text{£}1.50$ $= \text{£}2.40$	M1 A1	2	Give B1 for 2.4 or £2.4

6	(a) (b)	$2^3 = 8$ $\frac{2}{3} \times \frac{1}{10} = \frac{2}{30} = \frac{1}{15}$	B1 M1 A1	3	For mult leading to either $\frac{2}{3} \times \frac{1}{10} = \frac{2}{30}$ or $\frac{2}{3} \times \frac{1}{10} = \frac{1}{3} \times \frac{1}{5}$
7		140 in 4 minutes = $\frac{140}{4}$ in 1 minute $= \frac{140}{4} \times 30$ in 30 minutes $= 70 \times 15 = 1050$	M1 A1 A1	3	For idea of proportion by mult of dividing Partial answer
8	(a)(i) (ii) (b)(i) (ii) (c) (d)(i) (ii)	Completion of two bars 40 - 49 $\frac{5}{189}$ 30 + 20 + 13 + 2 = 65 $\Rightarrow \frac{65}{189}$ Because the groups are not the same size. You are choosing individuals not groups. $\frac{450}{660} = \frac{15}{22}$ $\frac{30}{50} = 60\%$	M1 A1 B1 B1 M1 A1 B1 M1 A1 M1 A1	11	For taking a value from table and attempting to produce a bar For attempt to add frequencies For writing fraction <i>and</i> attempting to simplify For writing as fraction <i>and</i> multiplying by 100
9	(a) (b) (c)	$x = 5$ $2x - 5 = 6$ $\Rightarrow 2x = 11$ $\Rightarrow x = 5\frac{1}{2}$ $4x + 9 = 3(x + 2)$ $\Rightarrow 4x + 9 = 3x + 6$ $\Rightarrow 4x - 3x = 6 - 9$ $\Rightarrow x = -3$	B1 M1 A1 M1 A1 A1	6	For attempting process One step correctly seen

10	(a)	Correct diagram	B1 B1 B1	Rotation Anticlockwise through 90^0 Correct end result
	(b)	Translation “back 4” “down 3”	B1 B1 B1	Accept $\begin{pmatrix} -4 \\ -3 \end{pmatrix}$
			6	

Section A Total 50

Assessment Objectives Grid

Question	AO2	AO3	AO4	Total
1	0	2	0	2
2	0	4	0	4
3	6	0	0	6
4	7	0	0	7
5	2	0	0	2
6	3	0	0	3
7	3	0	0	3
8	4	0	7	11
9	6	0	0	6
10	0	6	0	6
Totals	31	12	7	50